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ABSTRACT

A study investigated whether changes occurred in women's career success as a result of four years attendance at either a women's or a coeducational college. It is a follow-up to a 1975 study of the career success of entering college women. The 1979 graduates of generally comparable colleges (six women's and nine coeducational) indicated career success. Analyses of variance showed differences between college types and among selectivity levels of coeducational colleges. Post hoc tests confirmed that very selective women's college graduates are significantly more successful than coed graduates at the other two selectivity levels. T-tests performed on the career salience means for 1975 and 1979 showed that significant differences existed for each subgroup defined by selectivity level and college type. However, an analysis of the percentage of successful women at college entrance and exit indicates that women's colleges showed less growth in this dimension than coed colleges. Among coed colleges, the very selective colleges showed almost no growth while the selective colleges grew at twice the average for all coed colleges. Results highlight the fact that while women's colleges are responding to the needs of their career salient students and the percentage of career salient women increased over the four years, most coed colleges showed a greater increase in the percentage of career salient women. Some data charts and a list of references are included. (Author/MSE)

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# AN ANALYSIS OF THE EFFECTS OF FOUR YEARS OF ATTENDANCE AT A WOMEN'S OR COEDUCATIONAL COLLEGE ON WOMEN'S CAREER SALIENCE

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From the mid-sixties to the mid-seventies, the pros and cons of post-secondary education for women in single-sex institutions were debated. Women's colleges found themselves viewed as an anachronism and felt pressured to justify their existence. Advocates (Cole, 1972; Sandler, 1971; Tompkins, 1972; and Truman, 1970) proclaimed that women's colleges make a major contribution by providing a supportive environment in which women are free to develop their career potential. They emphasized that at a women's college women are first class citizens; they don't have to compete either with or for men. The absence of men relieves the pressure to follow the traditional female role and, thus, women have a greater potential for fulfilling themselves. Sandler (1971) viewed the women's colleges as providing a setting in which women can flourish and develop while examining and reevaluating their lives as women--a place where they can be "deconditioned" from the sex-role stereotypes imposed by society.

By the early seventies proponents of women's colleges sought to support their beliefs about the positiveness of single-sex education by studying successful women and attempting to determine the factors contributing to their success. Most notable is the work of Tidball (1973, 1974), who contended that women's colleges produce about 2.5 times as many achieving women, on a percentage basis, as do coeducational colleges. She attributed this higher career achievement among women's college graduates to the greater number of faculty female role models, since there are more female faculty members in women's than coeducational colleges.

Spurred by Tidball's conclusions, several researchers took a closer look at whether there is a positive effect of attendance at a women's college.

Using data from the Cooperative Institutional Research Program at ACE/UCLA, Brown (1978, 1979) found that institutional variables do impact the career aspirations of college women. She reported that overall the effects on career plans and self esteem are positive for highly selective women's colleges. Positive effects on women's career plans were also found for highly selective universities and relatively unselective nonsectarian coeducational colleges. Conversely, the effects on career plans and self esteem are negative for large, public institutions with low selectivity.

Oates and Williamson (1978) studied the production of achievers and the occupational choices of these achievers from three college types (Seven Sisters, other women's colleges, and coeducational colleges). They found that 'Women's college achievers were distributed among five basic occupational categories in proportions similar to those of their coeducational counterparts and that even within occupational areas, there are few significant differences between the two types of college." Regarding production, they concluded that while women's colleges do produce more achievers, most of them come from the Seven Sisters colleges. The researchers suggest that two questions remain to be answered concerning these results: (1) Might the greater number of achieving graduates from the Seven Sisters be due to the higher socio-economic level of the colleges' student bodies, as well as their greater selectivity in admission?; and 2) Would these women have achieved as much had they been graduates of coeducational Ivy League colleges, the analog of the Seven Sisters at the time the subjects attended college?

I questioned the validity of Tidball's conclusion also (Lentz, 1977). It was my hypothesis that the pre-college socialization process and the

selective recruitment of colleges would result in differences between women's college enrollees and coeducational college enrollees on the factor of career salience. Career salience, as defined by Masih (1967), is determined by (1) the degree to which a person is career motivated, (2) the degree to which an occupation is important as a source of satisfaction, and (3) the degree of priority ascribed to the occupation among other sources of satisfaction.

To test my hypothesis, I assessed the level of career salience for the 1975 enrollees of five women's colleges and nine coeducational colleges and found that women entering women's colleges were significatly more career salient than women enrolling in coeducational colleges, particularly at very selective institutions. This naturally led to the question of what happens during the college years to the variable of career salience for these two groups of women. The research reported here is designed to respond to this question.

Method

Subjects. The subjects were senior women from six women's colleges and nine coeducational colleges. The colleges from which the subjects were drawn consisted of small, private, liberal-arts institutions located in the northeastern United States. Although some of the colleges maintain their historical denominational affiliations, only those which operate as non-denominational institutions were included in the study. All of the colleges had a yearly comprehensive fee greater than $3500 when the study began, in 1975, and offered a similar type of program. The coeducational and women's colleges were chosen to differ systematically in level of admission competitiveness. Table 1 shows the distribution of colleges and subjects for the study.

Table 1

Distribution of Colleges and Subjects

| | Number of Colleges | | Number of Subjects | |
|---|---|---|---|---|
| | 1975 | 1979 | 1975 | 1979 |
| Women's Colleges | | | | |
| Highly Selective | 0 | 0 | 0 | 0 |
| Very Selective | 2 | 3 | 371 | 240 |
| Selective | 3 | 3 | 306 | 144 |
| Coeducation Colleges | | | | |
| Highly Selective | 3 | 3 | 393 | 240 |
| Very Selective | 3 | 3 | 357 | 239 |
| Selective | 3 | 3 | 386 | 219 |

Instrumentation. The questionnaire used in this research was developed by Shirley Angrist and modified by this researcher. Embedded in the questionnaire used in both the 1975 and 1979 studies were 11 dichotomously scored items that Angrist (1971-72) identified as forming a Life Style Index, a measure of career salience. The Life Style Index served as the dependent variable in testing the hypotheses.

Procedures. Either during freshman orientation or within the first two weeks of college entrance in Fall, 1975, the freshman women in each participating college were requested to respond to the questionnaire on a voluntary basis. An analysis of the response rate indicated that 67% of the total sample of freshman women within the 14 colleges responded to the research questionnaire. Sixty-one questionnaires were incomplete, giving a usable response rate of 65%.

In May, 1979, all senior women in the 15 participating colleges were requested to respond to the questionnaire a second time. A followup letter with a second questionnaire, and a postage-paid envelope, was sent to all non-respondents during the summer months. The response rate for the posttest was 56.4%.

Data Analysis. A two-way, least squares analysis of variance was performed to compare coeducational colleges and women's colleges at the selective and very selective admission levels on the variable of career salience. Due to the empty cell for the highly selective women's colleges, a one-way least squares analysis of variance was carried out on coeducational colleges to determine whether there are differences in career salience among the three selectivity levels.

To test whether a change occurred in career salience during the four college years, T-tests were used to compare the means on career salience for 1975 and 1979 for each cell of the research design. In addition, the percentage of career salience women within each cell was computed for 1975 and 1979.

These analyses were carried out on all the subjects responding to the 1979 study. Then they were repeated, using only the subjects who had attended their respective graduating institutions for all of their undergraduate education. Results were similar in both analyses. This paper will present the results obtained when non-transfer students were used in the analysis of data.

## Results

The mean of each cell on the dependent variable "career salience", as measured by Angrist's Life Style Index, is shown in Table 2.

Table 2

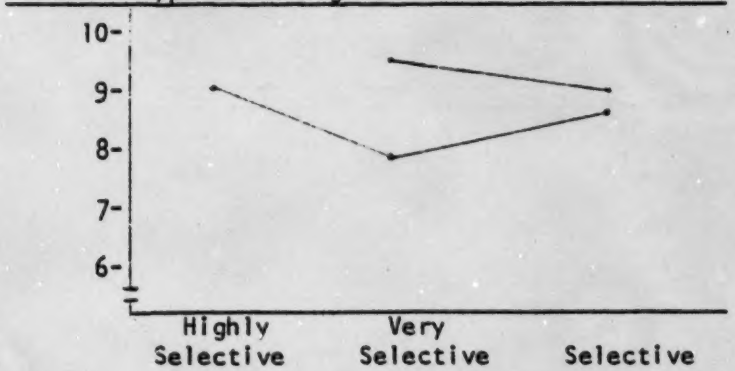
Mean Scores for Career Salience
by College Type and Level of Admission Competitiveness

| | 1975 | | 1979 | |
|---|---|---|---|---|
| | $\bar{X}$ | SD | $\bar{X}$ | SD |
| Womens' Colleges | | | 9.03 | 1.94 |
| Very Selective | 8.22 | 2.18 | 9.26 | 1.86 |
| Selective | 7.51 | 2.29 | 8.66 | 2.03 |
| Coeducational Colleges | | | 8.40 | 2.27 |
| Highly Selective | 7.61 | 2.50 | 8.88 | 1.96 |
| Very Selective | 7.20 | 2.51 | 7.97 | 2.35 |
| Selective | 7.06 | 2.60 | 8.35 | 2.39 |

Results of the two-way analysis of variance strongly support the hypothesis that women's college graduates are significantly more career salient than coeducational college graduates, $F_{(1,837)} = 34.144$, $p < .001$. The comparison between selectivity levels (selective and very selective) resulted in no significant difference. However, there is an interaction between level of admission competitiveness and college type on career salience, $F_{(1,837)} = 9.859$, $p < .005$. As shown in Figure 1, the higher the level of admission competitiveness, the greater is the difference in career salience between the two types of colleges.

Figure 1

Interaction of Level of Admission Competitiveness
and Type of College on Career Salience



The one-way analysis of variance on coeducational colleges shows a significant difference in the career salience of women graduating from colleges at the three levels of admission competitiveness, $F_{(2,695)} = 9.929$, $p < .001$.

Dunn's test was used to make six of the possible ten pairwise comparisons among means on the Life Style Index, Table 3. A significant difference, $p < .01$, was found between the means on career salience received by graduates of womens' colleges and graduates of coeducational colleges at the very selective admission level.

Table 3

Summary Table of Pairwise Comparisons on Cell Means for Career Salience

| | Very Selective Womens' | Highly Selective Coed | Selective Womens' | Selective Coed | Very Selective Coed |
|---|---|---|---|---|---|
| Very Selective Womens' | - | - | .60 | - | 1.29** |
| Highly Selective Coed | | - | - | .53** | .91** |
| Selective Womens' | | | - | .31 | - |
| Selective Coed | | | | - | .38 |
| Very Selective Coed | | | | | - |

**p < .01

A comparison of means among levels of admission competitiveness for coeducational colleges resulted in a significant difference, $p < .01$, between women graduating from highly selective coeducational colleges and those graduating from either very selective or selective coeducational colleges.

To test whether there was a significant change in career salience between 1975 and 1979 for each subgroup as defined by college type and level of admission competitiveness, T-tests were performed. As shown in Table 4, there was a significant change for each cell of the research design.

Table 4

Summary Table of T-tests
on Cell Means of Career Salience for 1975 and 1979

| | Means | | |
|---|---|---|---|
| | 1975 | 1979 | T |
| Womens' Colleges | | | |
| Very Selective | 8.22 | 9.26 | 6.34** |
| Selective | 7.51 | 8.66 | 5.37** |
| Coeducational Colleges | | | |
| Highly Selective | 7.61 | 8.88 | 7.09** |
| Very Selective | 7.20 | 7.97 | 3.79** |
| Selective | 7.06 | 8.35 | 6.14** |

**$p < .001$

One might anticipate that it is only normal for graduating seniors to be more career salient than enrolling freshmen due to rapidly approaching career entrance. Indeed, this is what Angrist found when she developed the Life Style Index. The median score for freshmen, sophomores, and juniors, and the cutting point for career salience, was 5. For seniors, the median rose to 6. Thus, a better measure of growth in career salience for each subgroup might be the increase in percentage of career salient women, rather than change in mean scores. Table 5 shows the percentage of career salient women by college type and level of admission competitiveness. Two results are immediately evident: coeducational colleges show greater growth in the percentage of career salient women than women's colleges; and among coeducational

colleges, very selective colleges show almost no growth in the percentage of career salient women while selective colleges have had twice the growth of all coeducational colleges.

Table 5

Percentage of Career Salient Women by College Type and Selectivity

| | 1975 | 1979 | Change |
|---|---|---|---|
| Womens' Colleges | 82.9 | 87.5 | +4.6 |
| Very Selective | 86.5 | 90.4 | +3.9 |
| Selective | 78.4 | 84.5 | +4.1 |
| Coeducational Colleges | 74.1 | 79.7 | +5.6 |
| Highly Selective | 78.4 | 84.2 | +5.8 |
| Very Selective | 73.1 | 73.2 | +0.1 |
| Selective | 70.7 | 81.7 | +11.0 |

Discussion

Career salience tends to increase during the four years of college attendance regardless of college type. However, the percentage of career salient women within each college or grouping of colleges by type and selectivity may not increase due to the cut-off points for career salience established by the author of the Life Style Index.

In 1975 this researcher found that women matriculating in very selective womens' colleges were significantly higher in career salience than women enrolling in coeducational colleges at the same selectivity level (Lentz, 1977). This result was repeated in the current research. Of equal importance is the finding that while the percentage of career salient women increased in womens' colleges, it remained the same in coeducational institutions. Why? I can but hypothesize that 1) within these colleges there are factors which militate

against career salience, 2) that there are variables in the women's continuing socialization which do not foster career salience, or 3) a combination of both of these.

It is significant that there was an eleven percent increase in the number of career salient woman at selective coeducational colleges between 1975 and 1979. What is happening in these colleges? They tend to draw first generation college students more frequently than the other colleges included in the study. Could this fact, in conjunction with the greater opportunities available to women today, account for this phenomenon?

No differences were found in career salience between women's college graduates at the two selectivity levels. From the work of Oates and Williamson (1978) this might be anticipated. Also, from their work, we can offer the thesis that had the highly selective women's colleges participated in the study, differences would have been found between their graduates and those at the other selectivity levels.

Coeducational colleges, while consistently scoring lower in career salience than women's colleges at the same selectivity levels, show significant differences among selectivity levels with highly selective college graduates showing the greatest career salience.

Results of this study highlight the fact that there must be variables other than, or in addition to, female role models which contribute to the greater number of women's college graduates becoming achievers. Otherwise, we would not find the gains reported in the number of career salient women at coeducational colleges. We could, however, pose the theory that role models are important while sex of the role model is insignificant. This would be consistent with the findings of Husbands (1972) while not rejecting the effect of female faculty at women's colleges, which is 2½ times the national average for all higher education institutions (Women's College Coalition, 1976). In fact, subjects in

this study, graduates of both college types, report that they were most influenced in their choice of occupation by college teachers and persons in the occupation.

Limitations of the Study. A major limitation of this study is the fact that the design contained an empty cell--the cell which should have contained women's colleges at the highly selective level of admissions. The empty cell precluded any comparisons being made between the highly selective women's colleges and the women's colleges at the other two selectivity levels as well as with the highly selective coeducational colleges.

A second limitation of the study is that individual subjects could not be tracked because the 1975 subjects responded anonymously to the research instrument. Thus, comparisons were carried out on group data with only non-transfer student data reported here.

Because the subjects used in this study were graduates of women's and coeducational colleges located in the northeastern United States, the results are not generalizable to the entire country. However, the results are important since this geographic region traditionally has been, and still is, the location of many reputable liberal arts colleges, both women's and coeducational.

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